

Docket No.: DE 020187

IN THE CLAIMS:

1. (Currently Amended) A method for controlling the transient response of a power converter powering a load (10), said power converter comprising a power switch (T1), a synchronous rectifier (T2) and a capacitor (30; $C_1, C_2, \dots C_N$) coupled between an input and an output of the power converter, said method comprising the step of
disabling said synchronous rectifier (T2) in response to a signal indicative of a change of said load (10),
~~characterized by providing said signal wherein said signal is provided~~ based on a current representing said change of load.
2. (Original) The method as claimed in claim 1, characterized in that said load (10) communicates information about its needed current to provide said signal.
3. (Original) The method as claimed in claim 1, characterized in that said signal is provided by detecting a current (I_o) through said load (10).
4. (Original) The method as claimed in claim 1, characterized in that said signal is provided by detecting a current (I_C).
5. (Currently Amended) A method for detecting the transient response of a power converter powering a load (10), characterized by filtering a voltage across said a capacitor (30) by a first RC element, said first RC element satisfying

$$C_1 R_1 \leq \frac{L_C}{R_C}$$

wherein

R_C = a parasitic serial resistance of the capacitor,

L_C = a parasitic serial inductance of the capacitor,

R_1 = a resistance of the first RC element, and

C_1 = a capacitance of the first RC element.

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6. (Original) The method as claimed in any of claims 1 to 5, characterized that said signal based on a current is compared to at least one threshold value.
7. (Currently Amended) Transient response controller to be used in a power converter powering a load (10), said power converter comprising a power switch (T1), a synchronous rectifier (T2) and a capacitor (30; $C_1, C_2 \dots C_N$) coupled between an input and an output thereof, said transient response controller being coupled at least to said synchronous rectifier (T2) to disable said synchronous rectifier in response to a signal indicative of a change of said load (10), characterized in that said transient response controller (40) is coupled to means for providing said signal based on a current through one of said load and said capacitor representing the change of load.
8. (Currently Amended) A power converter powering a load, comprising a power switch (T1), a synchronous rectifier (T2) and a capacitor (30; $C_1, C_2 \dots C_N$) coupled between an input and an output of the power converter, and a transient response controller (40) coupled to at least said synchronous rectifier T2, said transient response controller (40) disabling said synchronous rectifier in response to a signal indicative of a change of said load (10), by means for providing said signal based on a current through one of said load and said capacitor representing said change of load, said means for providing said signal being coupled to said transient response controller (40).
9. (Original) The power converter as claimed in claim 8, characterized in that said means for providing said signal is a controller of said load (10) communicating the power consumption of said load (10) to said transient response controller (40).
10. (Original) The power converter as claimed in claim 8, characterized in that said means for providing said signal comprises means for detecting the current through said load (10) and means for comparing said current (I_o) with at least one threshold value.

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11. (Original) The power converter as claimed in claim 8, characterized in that said means for providing said signal comprises means for detecting the current (I_C) through said capacitor (30) by a voltage drop across said capacitor (30) and means for comparing said voltage drop with at least one threshold value.
12. (Original) The power converter as claimed in any of claims 8 to 11, characterized in that said transient response controller (40) is connected to said power switch (T1) to switch off said power switch in response to said signal.
13. (Original) Use of power converter as claimed in any of claims 8 to 12 for powering high speed integrated circuits.